

WHAT IS CLAIMED IS:

1. A method for separating semiconductor chips comprising the steps of:

positioning a sheet, to which a wafer diced into many semiconductor chips is stuck and which has its edge surrounded and supported by a frame, to a predetermined site;

sucking said wafer to a sucker plate;

cutting said sheet to cut off, from said frame, a part of said sheet including a site where said wafer is stuck to said sheet;

separating said sheet from said wafer while said wafer being sucked to said sucker plate; and

picking up the individual semiconductor chips, transferring them from said sucker plate to a different site and storing them in a tray.

2. A semiconductor chip separating method according to claim 1, wherein when separating said sheet from said semiconductor wafer, said sheet is separated by pulling the edge of said sheet in a predetermined direction while said sheet being moved under a guidance of a wedge-shaped guide, said wedge-shaped guide being moved in a direction making an angle of about  $45^{\circ}$  to the dicing line for chips on said wafer and concurrently therewith said sheet being pulled in the  $45^{\circ}$  direction, said sheet being caused to profile an angle of  $15^{\circ}$  of said wedge-shaped guide so as to be pulled in a direction making an angle of about  $15^{\circ}$  to the top surface of said sucker plate.

3. An apparatus for separating semiconductor chips comprising:

a sucker plate for sucking a wafer diced into many semiconductor chips and stuck to a sheet surrounded and supported by a frame;

a cutter for cutting said sheet to cut off, from said frame, a part of said sheet including a site where said wafer is stuck to said sheet;

a separation mechanism for pulling said sheet in a predetermined direction while said wafer being sucked to said sucker plate so as to peel off said sheet from said wafer; and

a moving mechanism for picking up the individual semiconductor chips independently of each other from said sucker plate and moving them.

4. A semiconductor chip separating apparatus according to claim 3, wherein said sucker plate is rotatable.